

COMPLETE LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (previously amended) An isolated thermal interface comprising a flexible graphite sheet including particles of natural graphite, the sheet having two major surfaces, at least one of the major surfaces coated with a protective coating sufficient to inhibit flaking of the particles of graphite.

Claim 2 (original) The thermal interface of claim 1 wherein the protective coating comprises a thermoplastic material.

Claim 3 (previously amended) The thermal interface of claim 2 wherein the thermoplastic comprises polyethylene, a polyester or a polyimide.

Claim 4 (original) The thermal interface of claim 3 wherein the protective coating is no more than about 0.025 millimeters in thickness.

Claim 5 (original) The thermal interface of claim 4 wherein the protective coating is effective to electrically isolate the coated major surface of the sheet of flexible graphite particles.

Claim 6 (original) The thermal interface of claim 1 wherein the flexible graphite sheet has edge surfaces, and at least one edge surface of the flexible graphite sheet is coated with a protective coating sufficient to inhibit flaking of the particles of graphite.

Claim 7 (original) The thermal interface of claim 1 which further comprises a layer of adhesive interposed between the protective coating and the flexible graphite sheet.

Claim 8 (original) The thermal interface of claim 7 wherein the adhesive is selected from the group consisting of acrylic and latex materials.

Claim 9 (original) The thermal interface of claim 7 wherein the layer of adhesive is no more than about 0.015 millimeters in thickness.

Claim 10 (previously amended) A process for producing a thermal interface having protective coating sufficient to inhibit flaking of the particles of graphite, the process comprising (a) forming a flexible graphite sheet, said sheet comprising compressed expanded natural graphite particle, into the size and shape desired for a thermal interface, wherein the formed flexible graphite sheet has at least one major surface and at least one edge surface, and wherein the sheet has its directions of greater thermal conductivity parallel to the major surface; and (b) coating the formed flexible graphite sheet with a material to form a protective coating, such that the material forms a protective boundary about the flexible graphite sheet.

Claim 11 (original) The process of claim 10 wherein the material is coated on the formed flexible graphite sheet so as to flow completely about at least one of the major surfaces and at least one of the edge surfaces of the sheet, and extend beyond at least one of the edge surfaces of the sheet.

Claim 12 (original) The process of claim 11 wherein the material is coated on the formed flexible graphite sheet by spray coating, roller coating or hot laminating press.

Claim 13 (original) The process of claim 10 wherein the material is coated on the formed flexible graphite sheet on at least one of its major surfaces.

Claim 14 (original) The process of claim 13 wherein the material is coated on the formed flexible graphite sheet by roller coating, laminating with adhesive, or hot press laminating, and then cutting the formed flexible graphite sheet into the desired size and shape of the thermal interface.

Claim 15 (original) The process of claim 10 wherein the material comprises a thermoplastic material.

Claim 16 (original) The process of claim 15 wherein the material comprises polyethylene, a polyester or a polyimide.

Claim 17 (original) The process of claim 16 wherein the material is no more than about 0.025 millimeters in thickness.

Claim 18 (original) The process of claim 10 wherein an adhesive is coated on the formed flexible graphite sheet between the material and the formed flexible graphite sheet.

Claim 19 (original) The process of claim 18 wherein the adhesive comprises an acrylic or a latex material.

Claim 20 (original) The process of claim 19 wherein the layer of adhesive is no more than about 0.015 millimeters in thickness.

Claim 21 (amended) The thermal interface according to claim 1 further comprising a second major surface of said two major surfaces, wherein said second major surface is

not coated with said protective coating and second major surface is aligned facing an electrical component.

Claim 22 (amended) The thermal interface according to claim 21 wherein said one major surface is in contact with said electrical component.

Claim 23 (amended) The process according to claim 10 wherein said sheet comprises a second major surface, further comprising not coating said second major surface with said protective coating.